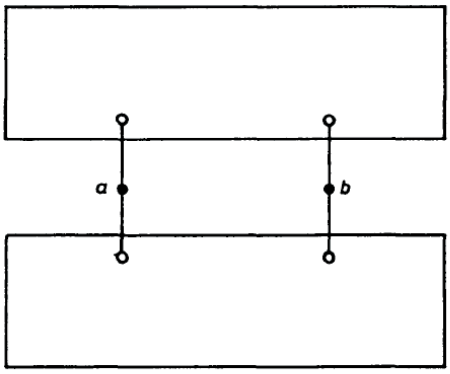
is seldom offered, but when it is it appears to amount to a claim that sources and sinks can be unerringly distinguished. If any authorities do indeed make this claim, I invite them to try it on the two black boxes shown in Fig. E. One of them is known to



E Two black boxes connected in a closed circuit. Which one contains the ideal sinusoidal voltage generator?

contain an ideal sinusoidal voltage generator and the other a single simple circuit element (R, L or C). These are connected in a closed circuit, which is at such a temperature that resistance is zero. It is known, or can be ascertained, that, whenever a is at peak positive potential with respect to b, the current is momentarily zero and about to flow upwards through a. Which box contains the generator?

Those who like to draw arrows showing generator voltages directed *with* the current and load voltages *against* it might care to show how they would draw them here.—Yours faithfully,

M. G. SCROGGIE
18 Bromley Common, Bromley, Kent
7th April 1965

Phasor diagrams

Dear Sir—I am greatly indebted to the 16 correspondents whose comments on my proposals for phasor diagrams you were good enough to publish in several issues of *Electronics & Power* last year, as well as to others who wrote privately. The need for a much fuller exposition of the subject was made plainly evident, and this I am preparing, but in the meantime I would like to offer a simple little problem.

The main line of cleavage between the many diverse practices in the teaching of a.c.-circuit theory appears to lie between those who regard changes of potential around a closed circuit as being adequately dealt with by positive and negative values of one quantity, reckoned in volts, and those who insist on distinguishing two quantities, having the symbols E and V, opposite in nature, so that, in either of the two existing double-subscript notations, $E_{ab} \equiv -V_{ab}$.

The latter practice would, on the face of it, seem less simple and more liable to give rise to confusion than the former, and so would appear to require justification. This